

REMARKS

Initially, applicants would like to thank the Examiner for withdrawing the final rejection of claims 1, 2, 4-7, 9-12, 14, 15 and 17.

Claims 1, 2, 4-7, 9-12, 14, 15 and 17 were previously pending in the application. Claims 7 and 12 are canceled, leaving claims 1, 2, 4-6, 9-11, 14, 15 and 17 for consideration.

Claims 1, 4 and 5 are rejected as unpatentable over IVANOV et al. 5,557,497 in view of MROTEK et al. 5,776,633. This rejection is respectfully traversed.

As set forth in the Official Action, IVANOV et al. neither teach the recited averaged diameter of the activated carbon powder nor the recited particle size distribution thereof. MROTEK et al. at column 3, lines 39-57 teach two forms of activated carbon: carbon powder and carbon fiber.

However, only the carbon fiber disclosed by MROTEK et al. has a diameter of 5 to 20 microns. MROTEK et al. do not teach or suggest that the carbon powder has an average diameter of 5 to 20 microns. Accordingly, the recited particle size distribution of the activated carbon powder in the range of 2 micrometers to 20 micrometers would not be obvious based on the proposed combination of references.

Claims 6, 11 and 17 are rejected as unpatentable over FONG et al. 5,069,683 in view of MROTEK et al.

The subject matter of claim 7 has been combined with claim 6. Since FONG et al. in view of MROTEK et al. was not applied against claim 7, the above rejection is believed moot.

In addition, as set forth above, MROTEK et al. do not teach the recited range for activated carbon powder. Such feature is also in claims 6 and 11.

Claim 2 is rejected as unpatentable over IVANOV et al. in view of MROTEK et al. and ANDELMAN 6,127,474. This rejection is respectfully traversed.

The position set forth in the Official Action is that ANDELMAN teaches that it is known in the art to provide a capacitor with an electrode resistance of 1-10 Ω -cm and that it would have been obvious to one of ordinary skill in the art to choose this range because the range is known. However, the motivation set forth in the Official Action is untenable for at least the following reasons.

Column 7, lines 21-23 of ANDELMAN, noted in the Official Action, teach that a resistivity of 1-10 Ω -cm is known for flow-through capacitors. ANDELMAN does not teach or suggest a resistivity for an energy storing capacitor such as the electrochemical capacitor of MROTEK et al. or the energy storage capacitor of IVANOV et al. As set forth on column 1, lines 27-34 of IVANOV et al., different capacitors have certain problems associated with their use in the field or operating environments.

There is no teaching or suggestion that the flow-through capacitor having a resistivity of 1-10 Ω -cm would be appropriate for the capacitive systems of either MROTEK et al. or IVANOV et al.

In addition, MROTEK et al. teach a composition having a density from 0.095 Ω -cm to 0.24 Ω -cm and as such, a relatively low resistivity. One of ordinary skill in the art would not be motivated to use an electrode having a resistivity of 1-10 Ω -cm as taught by ANDELMAN that has 10 to 70 times the resistivity of MROTEK et al.

Specifically, column 5, lines 33-39 of MROTEK et al. teach optimizing the composition to achieve a minimum resistance. Since the range taught by ANDELMAN is 10 to 70 times higher than the values taught by MROTEK et al., one of ordinary skill in the art would not be motivated to combine MROTEK et al. and ANDELMAN to render obvious the claims of the present application. IVANOV et al. is silent as to the teaching of resistivity. Therefore, there is no motivation to combine the references in the manner proposed to render obvious claim 2 of the present application.

Claims 7 and 12 are rejected as unpatentable over FONG et al. in view of MROTEK et al. and ANDELMAN. This rejection is respectfully traversed.

FONG et al. is silent as to the teaching of resistance. As set forth above, MROTEK et al. teach minimizing resistance and

teach values between 0.095 Ω -cm and 0.24 Ω -cm. Therefore, it would not be obvious to one of ordinary skill in the art to increase the resistance 10 to 70 fold as taught by ANDELMAN to render obvious claims 7 and 12.

Claims 9, 10, 14 and 15 are rejected as unpatentable over FONG et al. in view of MROTEK et al. and IVANOV et al. This rejection is respectfully traversed.

Claims 9 and 10 and 14 and 15 depend from claims 6 and 11, respectively, and further define the invention. As set forth above, claims 6 and 11 have been amended to include the subject matter of claims 7 and 12 and recite that the specific resistance of the electrodes is in the range of 2.0 Ω cm to 7.0 Ω cm. Claims 6 and 11 are also amended to recite an activated carbon powder. As set forth above, the teachings of MROTEK et al. are with respect to an activated carbon fiber, not an activated carbon powder.

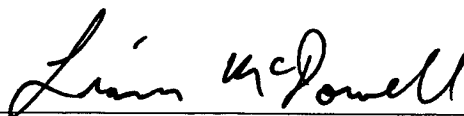
The above-noted features are missing from each of the references, are absent from the combination and thus are not obvious to one having ordinary skill in the art. Since claims 9, 10, 14 and 15 depend from claims 6 and 11, the combination of references would not render obvious claims 9, 10, 14 and 15.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

Respectfully submitted,

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